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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/516,306	04/25/2006	Koji Igarashi	262980US8PCT	3906

22850 7590 11/27/2009

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EXAMINER	
TRAN, DZUNG D	

ART UNIT	PAPER NUMBER
2613	

NOTIFICATION DATE	DELIVERY MODE
11/27/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/516,306	IGARASHI ET AL.	
	Examiner	Art Unit	
	Dzung D. Tran	2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 September 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-63* is/are pending in the application.

4a) Of the above claim(s) *1-9 and 23-63* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *10-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. Applicant's election without traverse of Group II, claims 10-22 in the reply filed on 09/08/2009 is acknowledged.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims 10-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Masao et al. Japan publication no. 11-284261.

Regarding claim 10, Masao discloses in Figure 3, a waveform reshaping device having a soliton converter comprising an anomalous dispersion fiber (ADF) 21 in which a fiber length thereof is up to twice of that of a soliton frequency (see abstract).

Regarding claim 11, Masao discloses wherein an optical filter 22 is included in a stage after said anomalous dispersion fiber (Figure 3).

Regarding claim 12, Masao discloses wherein an optical amplifier 10 is included in a stage before said anomalous dispersion fiber 21.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Masao et al. Japan publication no. 11-284261 in view of Evans US 2003/0118303

Regarding claim 13, Masao does not specifically disclose a NOLM is included in place of the soliton converter.

Evans discloses a waveguide fiber dispersion compensation regenerator combines a NOLM filter (see abstract).

At the time of the invention was made, it would have been obvious to an artisan to include the NOLM filter taught by Evans in the apparatus of Masao. One of ordinary skill in the art would have been motivated to do that in order to obtain a clean soliton signal.

6. Claims 14-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masao et al. Japan publication no. 11-284261 in view of Igarashi US 2006/0002715.

Regarding claim 14, Masao does not specifically disclose wherein a pulse compressor is included at an input side.

Igarashi discloses a pulse compressor connected to the soliton regeneration (Figures 2-3).

At the time of the invention was made, it would have been obvious to an artisan to include the pulse compressor taught by Igarashi in the apparatus of Masao. One of ordinary skill in the art would have been motivated to do that in order to reduce the group velocity dispersion.

Regarding claim 15, Igarashi discloses wherein said pulse compressor utilizes an adiabatic compression (Figures `2-3).

Regarding claim 16, Igarashi discloses wherein said pulse compressor includes a dispersion decreasing fiber in which the dispersion is decreasing in a longitudinal direction of the optical fiber (paragraphs 0011, 0016, 0027).

Regarding claim 17, Igarashi discloses wherein said pulse compressor includes an SDPF in which the dispersion has a step like profile in a longitudinal direction of the optical fiber (paragraph 0178).

Regarding claim 18, Igarashi discloses wherein said pulse compressor includes a CDPF in which the dispersion has a comb like profile in a longitudinal direction of the optical fiber (paragraph 0012).

Regarding claim 19, Igarashi discloses wherein said pulse compressor includes an optical fiber in which nonlinearity is increasing in a longitudinal direction of the optical fiber (paragraphs 0195, 0205, 0257).

Regarding claim 20, Igarashi discloses wherein said pulse compressor includes an optical fiber in which nonlinearity has a step like profile increasing in a longitudinal direction of the optical fiber (paragraph 0200).

Regarding claim 21, Igarashi discloses wherein said pulse compressor includes an optical fiber in which nonlinearity has a comb like profile increasing in a longitudinal direction of the optical fiber (paragraphs 0012, 0144).

Regarding claim 22, Igarashi discloses wherein said pulse compressor includes a Raman amplifier (paragraph 0179).

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Islam et al. U.S. Publication no. 2003/0012495. Method and system for generating a broadband spectral continuum

b. Epworth U.S. Patent no. 5,523,874. Optically soliton pulse transmission system

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dzung D Tran whose telephone number is (571) 272-3025. The examiner can normally be reached on 9:00 AM - 7:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vanderpuye Kenneth, can be reached on (571) 272-3078. The fax phone number for
the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from thePatent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.
Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dzung Tran
11/20/2009
/Dzung D Tran/
Primary Examiner, Art Unit 2613